

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently amended) A capacitor, comprising:
a housing comprising a first terminal and a second terminal, the housing comprising dimensions that conform to standardized battery dimensions; and
a capacitor cell [[,]] the cell-disposed in the housing and electrically coupled to the housing, the capacitor cell comprising:
a first electrode;
a first current collector coupled the first electrode;
a second electrode;
a second current collector coupled to the second electrode; and
a separator interposed between the first electrode and the second electrode
the first electrode.
the first current collector, the second electrode, the second current collector, and
the separator rolled together in a jelly-roll configuration in which the first current
collector extends in a first direction and the second current collector extends in a
second direction opposite the first direction,
wherein the first current collector of the capacitor cell is coupled to the first
terminal of the housing and the second current collector is coupled to the second
terminal of the housing.
2. (Original) The capacitor of claim 1, wherein the housing comprises a standard D-cell sized battery form factor.
3. (Previously presented) The capacitor of claim 1, wherein the housing comprises a standard C-cell sized battery form factor.

4. (Previously presented) The capacitor of claim 1, wherein the housing comprises a standard AA-cell sized battery form factor.
5. (Previously presented) The capacitor of claim 1, wherein the housing comprises a standard AAA-cell sized battery form factor.
6. (Original) The capacitor of claim 1, wherein the housing comprises one or more connectors, wherein the one or more connectors comprise standardized battery connectors.
7. (Original) The capacitor of claim 1, wherein the capacitor cell comprises a double-layer capacitor.
8. (Original) The capacitor of claim 7, wherein the double-layer capacitor comprises a dry particle based electrode.
9. (Original) The capacitor of claim 7, wherein the double-layer capacitor comprises a dry particle based rolled electrode.
10. (Previously presented) The capacitor of claim 7, wherein the double-layer capacitor includes two collectors, wherein the two collectors and the housing comprise substantially the same metal, and wherein the collectors are electrically coupled to the housing.
11. (Original) The capacitor of claim 1, wherein the capacitor comprises a nominal maximum operating voltage of about 2.5 to 3.0 volts.
12. (Original) The capacitor of claim 1, wherein the capacitor comprises a capacitance of about 0.1 Farad or above.
13. (Original) The capacitor of claim 1, wherein the capacitor comprises a

specific energy density at about 2.5 volts of less than or equal to about 6.5 Wh/kg.

14. (Original) The capacitor of claim 1, wherein the capacitor comprises a specific power density at about 2.5 volts of less than about 8700 W/kg

15. (Original) The capacitor of claim 2, wherein the housing comprises an outer diameter of 33+0/-1 mm and a height of 61.5+0/-2 mm.

16. (Original) The capacitor of claim 1, wherein the housing comprises a standardized power tool battery sized form factor.

17. (Currently amended) A double-layer capacitor, comprising:

a housing, the housing comprising dimensions that conform to standardized battery dimensions; and

a double-layer capacitor electrically coupled to the housing within the housing,
the double-layer capacitor comprising:

a first electrode;

a first current collector coupled to the first electrode;

a second electrode;

a second current collector coupled to the second electrode; and

a separator interposed between the first electrode and the second electrode

the first electrode,

the first current collector, the second electrode, the second current collector, and

the separator rolled together in a jelly-roll configuration in which the first current

collector extends in a first direction and the second current collector extends in a

second direction opposite the first direction,

wherein the first current collector of the capacitor cell is coupled to the first

terminal of the housing and the second current collector is coupled to the second terminal

of the housing.

18. (Currently amended) A method of making a battery sized capacitor, comprising the steps of:

providing a double-layer capacitor comprising:
a first electrode;
a first current collector coupled the first electrode;
a second electrode;
a second current collector coupled to the second electrode; and
a separator interposed between the first electrode and the second electrode
the first electrode,
the first current collector, the second electrode, the second current
collector, and the separator rolled together in a jelly-roll configuration in which
the first current collector extends in a first direction and the second current
collector extends in a second direction opposite the first direction;
providing a standard battery-sized housing, the housing including an open end;
inserting the double-layer capacitor into the open end of the housing; and
sealing the open end of the housing, wherein the first current collector is coupled
to a first terminal of the housing and the second current collector is coupled to a second
terminal of the housing.

19. (Currently amended) A capacitor, comprising:
a double-layer capacitor comprising:
a first electrode;
a first current collector coupled the first electrode;
a second electrode;
a second current collector coupled to the second electrode; and
a separator interposed between the first electrode and the second electrode
the first electrode,
the first current collector, the second electrode, the second current collector, and
the separator rolled together in a jelly-roll configuration in which the first current
collector extends in a first direction and the second current collector extends in a second
direction opposite the first direction; and
housing means for housing the double-layer capacitor, wherein the housing means
comprises a battery form factor sized housing and the first current collector is coupled to
a first terminal of the housing and the second current collector is coupled to a second
terminal of the housing.

20. (Canceled)

21. (Currently amended) A battery sized energy storage device, comprising:
a standard battery-sized housing; and
a jelly-rolled electrode, the jelly-rolled electrode including ~~two collectors~~ a first collector extending in a first direction from the jelly-rolled electrode and a second collector extending in a second opposite direction from the jelly-rolled electrode, wherein the two collectors and the housing comprise substantially the same metal, wherein the ~~collectors are coupled to the housing to form an electrical connection~~ first collector is electrically coupled to a first terminal of the housing and the second electrode is electrically coupled to a second terminal of the housing.

22. (Original) The battery sized housing of claim 21, wherein the electrical connection provides a polarity independent path for application of energy to the energy storage device.

23. (Original) The battery sized housing of claim 21, wherein the energy storage device comprises a double-layer capacitor.

24. (Original) The battery sized housing of claim 21, wherein the electrical connection may receive energy with positive or negative polarity.

25. (Original) The battery sized housing of claim 21, wherein the electrical connection comprises a laser weld.

26. (Currently amended) A capacitor comprising:
a cylindrical housing comprising standardized battery form factor dimensions, the cylindrical housing comprising a first terminal on a first end of the cylindrical housing and a second terminal on the second end of the cylindrical housing opposite the first end of the cylindrical housing; and
a jelly-roll capacitor cell disposed within the cylindrical housing, the jelly-roll capacitor cell comprising a first collector extending from ~~disposed on~~ a first side of the capacitor cell and electrically connected to the first terminal of the cylindrical housing and a second collector extending from ~~electrically disposed on~~ a second side of the capacitor cell opposite the first side and electrically connected to the second terminal of the cylindrical housing.

27. (Previously presented) The capacitor of claim 26, wherein the capacitor cell comprises a double-layer capacitor.

28. (Previously presented) The capacitor of claim 26, wherein the capacitor cell comprises a rolled electrode capacitor cell.

29. (Previously presented) The capacitor of claim 26, wherein the first terminal may receive energy with positive or negative polarity.